



**SLOVENSKI STANDARD**  
**kSIST FprEN 1238:2010**

**01-december-2010**

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**Lepila - Določanje zmečičišča plastomernih lepil (obroček in kroglica)**

Adhesives - Determination of the softening point of thermoplastic adhesives (ring and ball)

Klebstoffe - Bestimmung des Erweichungspunktes von thermoplastischen Klebstoffen (Ring und Kugel)

Adhésifs - Détermination du point de ramollissement des adhésifs thermoplastiques (méthode bille et anneau)

**Ta slovenski standard je istoveten z: FprEN 1238**

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**ICS:**

83.180          Lepila                                  Adhesives

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
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**FINAL DRAFT**  
**FprEN 1238**

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ICS 83.180

Will supersede EN 1238:1999

English Version

## Adhesives - Determination of the softening point of thermoplastic adhesives (ring and ball)

Adhésifs - Détermination du point de ramollissement des  
adhésifs thermoplastiques (méthode bille et anneau)

Klebstoffe - Bestimmung des Erweichungspunktes von  
thermoplastischen Klebstoffen (Ring und Kugel)

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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<b>Contents</b>		Page
Foreword.....		3
Introduction .....		4
1	Scope .....	5
2	Normative references .....	5
3	Terms and definitions .....	5
4	Principle .....	5
5	Apparatus .....	5
6	Sampling .....	8
7	Preparation of sample .....	8
8	Procedure .....	9
9	Expression of results .....	10
10	Test report .....	10
Annex A (normative) Thermometer specification.....		11

## Foreword

This document (FprEN 1238:2010) has been prepared by Technical Committee CEN/TC 193 "Adhesives", the secretariat of which is held by AENOR.

This document is currently submitted to the Unique Acceptance Procedure.

This document will supersede EN 1238:1999.

The main modifications regarding the previous version are in the Foreword, Normative References and Note in 5.8.

This European Standard includes Annex A (normative) "Thermometer specification".

**SAFETY STATEMENT** — Persons using this document should be familiar with the normal laboratory practice, if applicable. This document does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any regulatory conditions.

**ENVIRONMENTAL STATEMENT** — It is understood that some of the material permitted in this standard may have negative environmental impact. As technological advantages lead to acceptable alternatives for these materials, they will be eliminated from this standard to the extent possible.

At the end of the test, the user of the standard should take care to carry out an appropriate disposal of the wastes, according to local regulation.

## Introduction

Thermoplastic adhesives do not change from the solid to the liquid state at a fixed temperature, but their viscosity decreases progressively as the temperature rises. For this reason, the determination of the softening point shall be carried out by defined methods to obtain comparable results.

## 1 Scope

This European Standard specifies a method for the determination of the softening point of hot-melt adhesives.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 923:2005+A1:2008, *Adhesives — Terms and definitions*

EN 1067, *Adhesives — Examination and preparation of samples for testing*

EN ISO 15605, *Adhesives — Sampling (ISO 15605:2000)*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 923:2005+A1:2008 and the following apply.

### 3.1

#### **softening point**

temperature at which the adhesive under test attains a degree of softness under the specified conditions

## 4 Principle

A steel ball of a specified mass is placed on a sample of adhesive contained on a metal ring of specified dimensions. The apparatus is heated at a constant defined rate. The temperature at which the sample is sufficiently soft to allow the ball to pass through the ring by a fixed distance is taken as the "softening point".

## 5 Apparatus

**5.1 Ball**, two steel balls,  $(9,53 \pm 0,02)$  mm in diameter, each having a mass of  $(3,50 \pm 0,05)$  g.

**5.2 Ring**, tapered brass ring to the dimensions of Figure 1.

NOTE As alternative the following can be used:

- a) shouldered brass ring to the dimensions of Figure 2;
- b) a straight-sided cylindrical ring with the following:
  - 1) interior diameter  $(15,9 \pm 0,1)$  mm;
  - 2) depth  $(6,4 \pm 0,1)$  mm.

Dimensions in millimetres

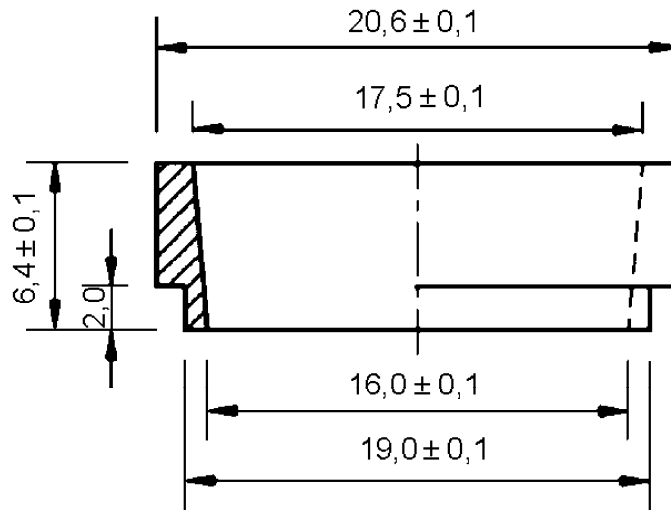


Figure 1 — Tapered brass ring

Dimensions in millimetres

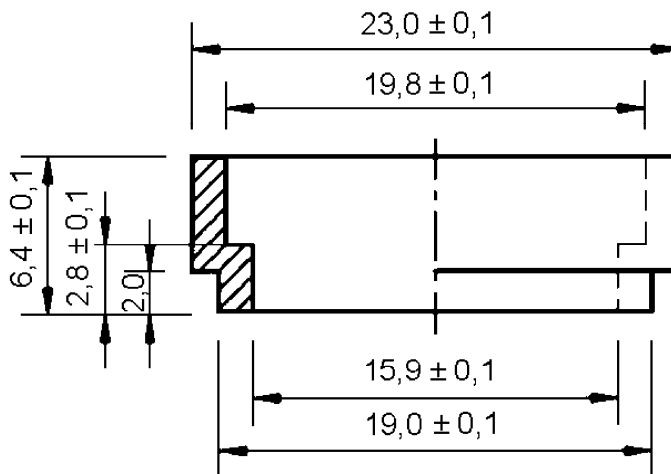


Figure 2 — Shouldered brass ring

To ensure the correct positions of the ring in its support, the exterior diameter shall be reduced at the lower part to  $(19,0 \pm 0,1)$  mm for a depth of 2 mm.

If a shouldered or straight-sided ring is used, this shall be noted in the test report.

### 5.3 Guide.

To center the ball, the arrangement in Figure 3 is recommended to be used.